

Documentation

2.1 Documentation Guidelines

It is the responsibility of the owner/operator to prepare and submit the appropriate documentation, as required by Chapter 34, Article IV Stormwater Management, of the Code of Ordinances of Columbia County, Georgia.

The following is a summary of the requirements specified in the ordinance:

- The owner of any private stormwater management facility, existing at the time of the effective date of the Stormwater Management Ordinance, shall submit a proposed Inspection and Maintenance Agreement (Appendix G) to Columbia County.
- New developments involving any stormwater management facility, which services a single residential lot or commercial or industrial activity, shall include an Inspection and Maintenance Agreement as a component of the Stormwater Management Plan.
- Developments involving five acres or more of land shall submit a Stormwater Concept Plan for review by Columbia County prior to the submittal of the Stormwater Management Plan. Part 1, Chapter 2 Section 2.1.2 of this manual provides guidance for the preparation of Stormwater Concept Plans and Stormwater Management Plans.
- Agricultural practices and forestry land management practices, including harvesting are exempted from the requirement of submitting a Stormwater Management Plan.

2.2 Stormwater Concept Plan

The requirement for a Stormwater Concept Plan applies to activities involving five acres or more of total land (not just disturbed area), unless specifically exempted or granted a variance pursuant to Sec. 34-151 and 34-152 of the Code of Ordinances of Columbia County, Georgia. A stormwater concept plan for each development shall be submitted for review by the Columbia County Engineering Department prior to submission of the Stormwater Management Plan (discussed in Part 1 Section 2.1.3) and construction plans for the entire development, or any portion thereof. The approval process is discussed in Sec. 34-153 of the Code of Ordinances of Columbia County, Georgia.

The Stormwater Concept Plan shall include the following items:

1. Project description (purpose, size of area to be disturbed, and location)
2. Narrative of existing topography
3. Soils descriptions and/or maps
4. Flood Insurance Rate Map
5. Proposed outfall locations and description of possible downstream impacts.
6. A listing and brief description of proposed erosion, sediment and stormwater control

BMPs to minimize pollution during construction.

7. A listing and brief narrative of proposed BMPs to minimize pollution after construction has ended
8. A sketch plan to accompany the narrative which shall contain
 - a. A site location drawing of the proposed project, indicating the location of the proposed project in relation to roadways, jurisdictional boundaries, streams and rivers
 - b. The boundary lines of the site on which the work is to be performed
 - c. All areas within the site which will be included in the land disturbing activities shall be identified and the total disturbed area estimated
9. A topographic map of the site

2.3 Stormwater Management Plan

The requirement for a Stormwater Management Plan applies to all land disturbing activities, regardless of size, unless specifically exempted or granted a variance per Sec. 34-151 or 34-152 of the Code of Ordinances of Columbia County, Georgia. The approval process is also discussed in Sec. 34-153 of the Code of Ordinances of Columbia County, Georgia.

The specific number of maps, practices, drawings, specifications, and calculations required for the Stormwater Management Plan depends on the size and complexity of the land disturbing activity. The plan should be organized in a clear, concise manner with sufficient design and background information included to facilitate review by Columbia County personnel. In general, an acceptable Stormwater Management Plan shall contain the following items, as a minimum:

1. A brief narrative including:
 - a. Project description (purpose, size of area to be disturbed, and location)
 - b. Before and after site description (topography, principal drainage way for the site, land cover condition, percent of impervious area, and the associated increase of runoff volume from the 2, 10, 25, 50 and 100-year 24-hour storm events)
 - c. Adjacent property. (This should include the identification of land use and cover conditions.)
 - d. Soils descriptions.
 - e. Description of site conditions around all surface water outfall locations, including methods of flow conveyance from the land disturbing activity.
2. Planned Best Management Practices (BMPs) to include all requirements specified in the latest revision of the Erosion, Sediment, and Pollution Control Plan Checklist as adopted by the Georgia Soil and Water Conservation Commission.
3. Operation and Maintenance (O&M) Plan including:
 - a. Temporary Measures: A plan for the schedule of maintenance during construction along with any operational criteria
 - b. Permanent Measures: Any stormwater management facility which serves a single lot or commercial or industrial activity shall be privately owned and shall develop a plan for the long term maintenance and operation of the facility including entities responsible, financial obligations for continued O&M, designated access for maintenance, and schedule of O&M activities. The plan shall be developed in accordance with the Maintenance and Inspection Agreement, (Appendix G) and submitted to the Columbia County Stormwater Utility Department for review and approval. O & M training should be provided to personnel responsible for continued operation of the completed project. This should include an annual review of the schedule for maintenance activities.
4. Detailed drawings and specifications of BMPs with supporting calculations
 - a. Manual detailed drawings indicating construction and design details can be utilized along with standard engineering drawings of structures and measures so long as site specific

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- elevations, dimensions, and characteristics are shown.
- b. Support data and calculations should be sufficient to allow reviewers to reproduce design procedure of structures and measures. Sources of information shall be cited.
 - c. One permanent benchmark shall be clearly labeled on drawings as needed to locate the BMPs. Elevations shall be tied to a NAVD 88 or NGVD 29 datum; description and elevation of benchmark shall be provided. The use of an assumed datum must be approved by Columbia County.
 - d. Engineering calculations needed to design the system and associated structures including pre- and post-development velocities, peak rates of discharge, and inlet and outfall hydrographs of stormwater runoff at all existing and proposed points of discharge from the site shall be provided. Hydrology data for the drainage basin area and site including input data, method of analysis, runoff generation, and routing calculations for on-site and off-site sub-basin areas. Documentation of runoff generated by the selected methodology shall include data for the 2, 10, 25, 50 and 100 year frequency storms. Runoff data shall be calculated for the drainage basin and site both prior to development and after development.
 - e. Soil characteristics of the proposed developed area shall be provided as well as immediate downstream receiving areas.
 - f. If an off-site facility is proposed to be utilized, the following information shall be submitted:
 - i. Provide documentation that the facility was designed to include the land site and usage of the proposed development and the off-site facility is adequate to address the anticipated loads; and
 - ii. Correspondence from the responsible party of the off-site facility accepting the discharge.
5. Maps shall be provided which indicate:
- a. A north arrow, scale, boundary lines of the site, and any other information necessary to identify the location of the land disturbing activity and the site stormwater discharge.
 - b. Preconstruction site topography while locating drains, property lines, construction work limits, utilities, and any physical improvements on the site. All areas within the site which will be included in the land disturbing activities shall be identified.
 - c. Identify the location of buildings and associated paved areas, raw materials or finish product stock pile areas, equipment storage areas, processing areas, construction entrances, access or haul roads, and finished grades.
 - d. Identify the location of all the BMPs (temporary, permanent and vegetative) along with the location of all permanent construction and associated paved areas and finished grades.
 - e. Delineation of the drainage basin of which the site is a part. The drainage basin shall be provided at an appropriate scale that can be utilized in the overall hydrologic evaluation. USGS quadrangle maps shall be used as a minimum standard map.
 - f. Drainage features, either natural or man-made, designed to receive discharge from proposed site improvements shall be identified with sufficient data provided to accurately characterize the features including but not limited to depth, width, side slopes, surface materials, etc.
6. Designation of all easements needed for inspection and maintenance of the drainage system and stormwater management facilities. At a minimum, easements shall have the following characteristics:
- a. Provide adequate access to all portions of the drainage system and structures.
 - b. Provide sufficient land area for maintenance equipment and personnel to adequately and efficiently maintain the system with a minimum of ten (10) feet along each side of all drainage ways, streams, channels, etc., and around the perimeter of all detention and retention facilities, or sufficient land area for equipment access for maintenance of all storm water management facilities. In situations where ten (10) feet is not practical or feasible, distances of less than ten (10) feet may be used when approved by Columbia County.
 - c. Restriction on easements shall include prohibiting all fences and structures which would interfere with access to the easement areas and/or the maintenance function unless an

encroachment agreement has been executed between Columbia County and the property owner.

8. A statement indicating that Columbia County has the right to conduct onsite inspections.
 - a. The land disturbing activity will be accomplished pursuant to the approved plan;
 - b. Responsible personnel will be assigned to the project; and
 - c. Columbia County has the right to conduct on-site inspections.
9. The Stormwater Management Plan shall be prepared, certified, and stamped/sealed by a qualified, registered Professional Engineer, Land Surveyor or Landscape Architect, using acceptable engineering standards and practices. The professional must also verify that:
 - a. No occupied minimum finished floor elevation of any structure is below the 100-year plus three feet flood elevation; and
 - b. The plans have been designed in accordance with the standards and criteria stated or referred to in this manual.

The Stormwater Management Plan shall not be considered approved without the inclusion of an approval stamp with a signature and date on the plans by Columbia County. The stamp of approval on the plans is solely an acknowledgment of satisfactory compliance with the requirements of this manual. The approval stamp does not constitute a representation or warranty to the applicant or any other person concerning the safety, appropriateness or effectiveness of any provision, or omission from the plan.

The person responsible for the land disturbing activity shall provide an “as-built” plan certified by a registered land surveyor to be submitted upon completion of the stormwater management facilities included in the stormwater management plan. One printed and one electronic copy, compatible with the software system used by Columbia County at the time of submittal, of the “as-built” plan shall be submitted to Columbia County. The registered professional engineer shall certify that the facilities as shown on the “as-built” plan are in substantial compliance with the approved stormwater management plan and specifications or achieves the function for which they were designed.

2.4 Inspection and Maintenance Agreement

Although the actual time that a Best Management Practice (BMP) facility performs its design function is relatively brief (during and immediately following a storm event), it must constantly be ready to do so. This is due to the random nature of rainfall events and the impracticality of inspecting the facility and performing maintenance immediately prior to them. Additionally, pollutant removal efficiencies will decline over time if adequate maintenance is not performed. To maintain maximum pollutant removal, it is important to have BMPs fully operational at all times. To provide this operational level, the BMP facility operator must establish and sustain a comprehensive, regularly scheduled maintenance program.

The owner of any private stormwater discharge control facility, existing at the time of the effective date of the Stormwater Management Ordinance, shall develop and submit a proposed inspection and maintenance agreement to Columbia County. In addition, all land disturbing activities involving any stormwater management facility which serves a single lot or commercial or industrial development, shall include an inspection and maintenance agreement as a component of the stormwater management plan. General guidance for the maintenance of BMP facilities is contained in Appendix G, including an inspection and maintenance agreement and an inspection checklist. Columbia County requires, that the Landowner, its successors and assigns, inspect the stormwater management/BMP facility in accordance with the approved maintenance plan. All inspection and maintenance agreements shall contain, without limitation, the following provisions:

1. Identification of party responsible for scheduling and performing the maintenance operations (possible arrangements for this maintenance responsibility might include the use of homeowners associations, private maintenance by development owner(s), or contracts with private maintenance companies);
2. A statement that no amendments to the agreement will become effective unless approved by Columbia County.

The agreement shall provide that preventive maintenance inspections of stormwater management facilities may

be made by Columbia County, at its discretion. Without limiting the generality of the foregoing, Columbia County's inspection schedule may include an inspection during the first year of operation and once every year thereafter, and after major storm events (i.e., two-year frequency storm).

The agreement shall provide that if, after an inspection by Columbia County, the condition of a facility presents an immediate danger to the public health, safety or general welfare because of unsafe conditions, improper maintenance, or non-compliance with local, state or federal rules or regulations, Columbia County shall have the right, but not the duty, to take such action as may be necessary to protect the public and make the facility safe or compliant. Any cost incurred by Columbia County shall be paid by the owner.